

S.N.10/774,866  
Art Unit 3661

## Dialog®Classic

S (FIRST (S) CLUTCH (S) TORQUE) AND (SECOND (S) CLUTCH (S) TORQUE) AND  
((SUM? OR TOTAL? OR ADD?) (3N) (CLUTCH? OR MAGNITUDE))

Your SELECT statement is:

S (FIRST (S) CLUTCH (S) TORQUE) AND (SECOND (S) CLUTCH (S) TORQUE)  
AND  
((SUM? OR TOTAL? OR ADD?) (3N) (CLUTCH? OR MAGNITUDE))

No files have one or more items; file list includes 10 files.

S (CLUTCH (S) TORQUE) AND ((SUM? OR TOTAL? OR ADD?) (3N) (CLUTCH? OR  
MAGNITUDE))

Your SELECT statement is:

S (CLUTCH (S) TORQUE) AND ((SUM? OR TOTAL? OR ADD?) (3N) (CLUTCH? OR  
MAGNITUDE))

Items	File
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10	8: Ei Compendex(R)_1970-2006/Jul W3
1	63: Transport Res(TRIS)_1970-2006/Jun
2	81: MIRA - Motor Industry Research_2001-2006/May
6	94: JICST-EPlus_1985-2006/Apr W4
7	95: TEME-Technology & Management_1989-2006/Jul W4

5 files have one or more items; file list includes 10 files.

?

T S2/3,KWIC/1-23

**2/3,KWIC/1 (Item 1 from file: 8)**

DIALOG(R)File 8:Ei Compendex(R)

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07806544 E.I. No: EIP06029638684

**Title: Improved dynamic performance of turbocharged SI engine  
power**

**trains using clutch actuation**

Author: Frei, Simon A.; Guzzella, Lino; Onder, Christopher H.;  
Nizzola,  
Corrado

Corporate Source: Measurement and Control Laboratory Swiss  
Federal

Institute of Technology Zentrum, Zurich 8092, Switzerland

Source: Control Engineering Practice v 14 n 4 April 2006. p 363-373

Publication Year: 2006

CODEN: COEPEL ISSN: 0967-0661

Language: English

...Abstract: proposes a new model-based optimal control strategy that  
is  
able to substantially reduce the torque lag present in spark-ignited  
turbocharged engine systems. The key idea is to utilize an automated  
wet  
clutch as an additional control actuator. The optimal control  
signals  
are obtained using a mean value model of the...

...a representative test case and an objective function that parametrizes the trade-off between fast torque dynamics and comfort. The proposed control strategy achieves a reduction of the time lag to reach 90% of full load torque by up to 70%. These results are experimentally confirmed on an engine dynamometer for a...

**2/3,KWIC/2 (Item 2 from file: 8)**  
DIALOG(R)File 8: Ei Compendex(R)  
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07595703 E.I. No: EIP05369341538

**Title: Dynamics and control of gearshifts on twin-clutch transmissions**  
Author: Goetz, M.; Levesley, M.C.; Crolla, D.A.  
Corporate Source: School of Mechanical Engineering University of Leeds,  
Leeds LS2 9JT, United Kingdom  
Source: Proceedings of the Institution of Mechanical Engineers, Part D:  
Journal of Automobile Engineering v 219 n 8 August 2005. p 951-963  
Publication Year: 2005  
CODEN: PMDEEA ISSN: 0954-4070  
Language: English

Abstract: Based on a detailed dynamic model of an automotive powertrain containing a twin-clutch transmission, an integrated powertrain control for gearshifts is developed. The operation of this controller is...

...same half of the transmission. The control algorithm makes use of closed-loop control of clutch slip for a smooth transfer of engine torque with the aim of reproducing the operation of a one-way clutch. Further elements are a closed-loop control of engine speed through a combination of a manipulation of engine controls and clutch pressure. In addition, it is demonstrated that the control of transmission output torque during gearshifts can add robustness to the control and provides a means to manipulate directly...

**2/3,KWIC/3 (Item 3 from file: 8)**  
DIALOG(R)File 8: Ei Compendex(R)  
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06885221 E.I. No: EIP04238201826

**Title: Controlled by computer's centrifugal clutch to add power with hydraulic pressure and electromagnetism**  
Author: Tan, Lixin; Ning, Liwei; Zhou, Zirong  
Corporate Source: Hu'nan Inst. of Eng., Xiangtan 411001, China  
Source: Jixie Gongcheng Xuebao/Chinese Journal of Mechanical Engineering  
v 39 n 12 December 2003. p 151-153+157

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Publication Year: 2003  
CODEN: CHHKA2 ISSN: 0577-6686  
Language: Chinese

**Title: Controlled by computer's centrifugal clutch to add power with**

**hydraulic pressure and electromagnetism**

Abstract: The centrifugal clutch to add power with hydraulic pressure and electromagnetism is introduced. The operation principle is explained. The calculation formulas of output force and driving torque, joint angular velocity and joint speed, rated angular velocity and rated speed and maximum load of spring, are presented. The structure of this clutch is compact. It can greatly improve the abilities of driving torque. To realize the best starting time and starting moment under its auto-control, according to the need and working state of the equipment and putting the function of clutch under the comprehensive consideration of equipment's computer control system as a subsystem, is the...

**2/3,KWIC/4 (Item 4 from file: 8)**

DIALOG(R) File 8: Ei Compendex(R)  
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06867748 E.I. No: EIP04228185576

**Title: New TC tronic transmission for extreme heavy-duty vehicles**

Author: Anon

Source: Diesel Progress North American Edition v 70 n 1 January 2004.

Publication Year: 2004

CODEN: DPNAD4 ISSN: 1091-370X

Language: English

...Abstract: on the company's AS Tronic Automated shift transmissions for trucks. The unit feature an additional torque converter clutch unit to assist start-up and maneuvering under heavy loads. The advantage of the TC...

**2/3,KWIC/5 (Item 5 from file: 8)**

DIALOG(R) File 8: Ei Compendex(R)  
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06614941 E.I. No: EIP03477733401

**Title: Effect of centrifugal force on magneto-rheological fluid clutches**

Author: Neelakantan, Vijay A.; Washington, Gregory N.

Corporate Source: Intelligent Struct. and Systems Lab Ohio State

University, Columbus, OH 43210-1107, United States

Conference Title: 2002 ASME International Mechanical Engineering Congress

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and Exposition

Conference Location: New Orleans, LA, United States Conference  
Date:

20021111-20021117

E.I. Conference No.: 61785

Source: American Society of Mechanical Engineers, Aerospace  
Division

(Publication) AD v 67 2002. p 191-196

Publication Year: 2002

CODEN: ASADD4 ISSN: 0733-4230

Language: English

...Abstract: a linear profile and the other with an exponential profile are discussed. Expressions for the torque transmitted are derived at for both disc shaped and cylindrical shaped clutches . In addition , the use of a MR sponge based clutch that may indeed reduce the effect of centrifugal forces significantly is described. The design methodology and configuration for the sponge clutch are also discussed. An experimental set up used to test the clutch is also described. 10 Refs.

**2/3,KWIC/6 (Item 6 from file: 8)**

DIALOG(R)File 8:EI Compendex(R)

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05887141 E.I. No: EIP01376640501

**Title: Thermal and dynamic characterization of wet clutch engagement with provision for drive Torque**

Author: Mansouri, M.; Holgerson, M.; Khonsari, M.M.; Aung, W.

Corporate Source: Dept. of Mechanical Engineering Louisiana State

University, Baton Rouge, LA 70803, United States

Source: Journal of Tribology v 123 n 2 April 2001. p 313-323

Publication Year: 2001

ISSN: 0742-4787

Language: English

**Title: Thermal and dynamic characterization of wet clutch engagement with provision for drive Torque**

...Abstract: the engagement process are needed. This work presents a finite element model for simulating wet clutch engagements. The total friction coefficient was used to describe the different lubrication regimes that a wet clutch engagement undergoes. The model also includes provision for drive torque that realistically simulates the engine torque of a car. The results of the simulations are successfully verified by comparison with laboratory experiments on a testrig specially designed to accommodate the drive torque , covering a wide range of typical engagements. Excellent agreement between experiment and simulations is reported...

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**2/3,KWIC/7 (Item 7 from file: 8)**  
DIALOG(R) File 8: Ei Compendex(R)  
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04868821 E.I. No: EIP97113925898

**Title: Next generation high performance ATF for slip-controlled automatic transmission**

Author: Kugimiya, Takanori; Yoshimura, Narihiko; Kuribayashi, Toshiaki;  
Mitsui, Jun'ichi; Ueda, Fumio; Ando, Yasushi; Nakada, Takanori; Ohira, Hirobumi

Corporate Source: Tonen Corp, Saitama, Jpn  
Conference Title: Proceedings of the 1997 International Fall Fuels & Lubricants Meeting & Exposition

Conference Location: Tulsa, OK, USA Conference Date: 19971013-19971016

E.I. Conference No.: 47262

Source: Lubricants for Passenger Car and Heavy Duty Diesel Engines SAE

Special Publications v 1304 Oct 1997. SAE, Warrendale, PA, USA. p 83-92

Publication Year: 1997

CODEN: SAESA2 ISSN: 1054-6693

Language: English

Abstract: A slip-controlled lock-up clutch system is very efficient in improving the fuel economy of automatic transmission (AT) equipped vehicles. However, a special automatic transmission fluid (ATF) which combines an anti-shudder property with high torque capacity is required for this system. In this study, we established additive technology for ATF having a sufficient anti-shudder property and high torque capacity. Based on the technology, new ATF: ATF-T4 was developed. It was confirmed in actual AT tests that ATF-T4 has excellent anti-shudder durability and high torque capacity. Furthermore, ATF-T4 has good SAE No.2 friction characteristics, oxidation stability, compatibility with...

Descriptors: \*Lubricating oils; Clutches ; Fuel economy; Additives

**2/3,KWIC/8 (Item 8 from file: 8)**  
DIALOG(R) File 8: Ei Compendex(R)  
(c) 2006 Elsevier Eng. Info. Inc. All rts. reserv.

03709355 E.I. No: EIP93091079002

**Title: Hubble space telescope EVA power ratchet tool redesign**

Author: Richards, Paul W.; Park, Chan; Brown, Lee

Corporate Source: NASA Goddard Space Flight Center, Greenbelt, MD, USA

Conference Title: Proceedings of the 16th AAS Rocky Mountain Guidance and Control Conference

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Conference Location: Keystone, CO, USA Conference  
Date:  
19920206-19920210  
E.I. Conference No.: 18802  
Source: Advances in the Astronautical Sciences Advances in  
the  
Astronautical Sciences v 81 1993. Publ by Univelt Inc, San Diego, CA,  
USA.  
p 453  
Publication Year: 1993  
CODEN: ADASA9 ISSN: 0065-3438 ISBN: 0-87703-366-8  
Language: English

...Abstract: astronauts during Extravehicular Activities (EVA). The  
original PRT did not meet the design specification of torque output  
and  
hours of operation. To increase efficiency and reliability the PRT  
underwent a redesign...

...this effort focused on the wrench. The original PRT drive train  
consisted of a low torque , high speed brushless DC motor, a face gear  
set, and a planocentric gear assembly. The...

...gear reduction was 300:1. The new PRT wrench consists of a low speed,  
high torque brushless DC motor, two planetary gear sets and a bevel  
gear  
set. The total gear reduction is now 75:1. A spline clutch has also  
been  
added to disengage the drive train in the manual mode. The design  
changes  
to the controller...

2/3,KWIC/9 (Item 9 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
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00354167 E.I. Monthly No: EI7403011581

**Title: ANALYTICAL SOLUTION FOR THE TAPERED ARBOR SPRING SLIP CLUTCH.**

Author: Robe, T. R.; Jones, S. E.

Corporate Source: Univ of Ky, Lexington

Source: American Society of Mechanical Engineers (Paper) n 73-DE-E  
1973 5

p  
Publication Year: 1973  
CODEN: ASMSA4 ISSN: 0402-1215  
Language: ENGLISH

Abstract: An analytical solution is developed for the tapered arbor  
spring slip clutch by introducing approximations that do not  
appreciably  
affect the accuracy of the important clutch quantities. In addition ,  
the influence of the coefficient of friction on the output torque , the  
axial force on the spring coil, and the radial contact forces along the  
tapered...

2/3,KWIC/10 (Item 10 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
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00326136 E.I. Monthly No: EI7309043631 E.I. Yearly No: EI73003988

**Title: AUTOMATIC TRANSMISSION FRICTION ELEMENTS.**

Author: Froslic, L. E.; Milek, T.; Smith, R. W.

Corporate Source: Chrysler Corp

Source: Des Pract Passenger Car Autom Transm, SAE Transm Workshop Meet,

2nd Ed p 106-124. Publ by SAE, New York, (Adv in Eng, Vol 5) 1973

Publication Year: 1973

Language: ENGLISH

...Abstract: of friction elements that are found in passenger car automatic transmissions produced today: The cone clutch ; Single- and double-wrap bands; Single- or multiple-disc clutches. Cone clutches often can be designed into a smaller space than a plate clutch of equal torque capacity. Drag losses can be lower than a plate clutch of equal torque capacity. Cost of a cone clutch may be more favorable. Flexible external contracting bands are one of the important types of...

...to several factors, which may be summarized as follows: Excellent design

potential, where high static torque capacity in a minimum of space is required. Design adaptability for providing the necessary grounding...

...as the preceding element in a power-on upshift sequence. The popularity

of the disc clutch in current automatic transmissions can be attributed

to several factors: The energy capacity resulting from a greater surface area than a cone clutch or band of comparable torque capacity and package size. The flexibility made possible by a wide range of friction materials available for clutch usage and the ease of greatly modifying the capacity of the unit by the addition or removal of clutch plates.

Unlike bands, disc clutches easily can be used as rotating engagement members.

2/3,KWIC/11 (Item 1 from file: 63)

DIALOG(R)File 63:Transport Res(TRIS)

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00799622 DA

**TITLE: NO-CAM ROUTE TO A CLEAN EXHAUST**

AUTHOR(S): STURGESS, S

CORPORATE SOURCE: REED BUSINESS INFORMATION LTD, QUADRANT HOUSE, THE QUADRANT, SUTTON, SURREY, SM2 5AS, UNITED KINGDOM

JOURNAL: COMMERCIAL MOTOR Vol: 192 Issue Number: 4882 Pag: p15

PUBLICATION DATE: 20000700 PUBLICATION YEAR: 2000

LANGUAGE: English SUBFILE: IRRD (I)

IRRD DOCUMENT NUMBER: E106002

ISSN: 0010-3063

DATA SOURCE: Transport Research Laboratory (TRL)

...ABSTRACT: 1 over the volume, timing, and shaping of the fuel injection.

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The new engine could add 40% to clutch engagement torque alone.

The 6.0l V8 that will replace the 7.3 is lighter and smaller...

**2/3,KWIC/12 (Item 1 from file: 81)**  
DIALOG(R)File 81:MIRA - Motor Industry Research  
(c) 2006 MIRA Ltd. All rts. reserv.

149193

**Volkswagen in midst of record setting drive**  
Volkswagen - Press Release  
June 8, 2000

Document Type: PRESS RELEASE Language: ENGLISH  
Record Type: ABSTRACT  
Supplier Record Type: Press Release

...is able to produce 61 horsepower and just as importantly 103.25 lb./ft. of torque at just 1,800 revolutions per minute. The Lupo 3 Litre TDI's engine also...

...with a stop-and-start function. This transmission offers the convenience of automatic shifting or clutch-free manual gear changes. In the Economy mode, the engine automatically switches off when the...

...a standstill with the brakes applied and then instantly restarts when the accelerator is depressed. Additionally, the clutch is disengaged when the accelerator pedal is lifted, so that the Lupo coasts at engine...

**2/3,KWIC/13 (Item 2 from file: 81)**  
DIALOG(R)File 81:MIRA - Motor Industry Research  
(c) 2006 MIRA Ltd. All rts. reserv.

91428

**Development of a Hydraulic Control System for 'All-Mode 4X4'**  
MURAKAMI K; WAKAHARA T; FUKUNAGA I  
Corporate Source: Nissan  
Nissan Tech Rev, No 38, 1996  
March 8, 1996  
Page : 94  
Collation : (7 p, 8 fig)

Document Type: JOURNAL Language: JAPANESE  
Record Type: ABSTRACT  
Supplier Record Type: AA

The hydraulic control system for a new electronic torque split four-wheel drive system, called 'All-Mode 4X4', consists of 2 oil pump assemblies...

...the other by a DC motor and a control valve body assembly which can control clutch pressure continuously.



To attain a high level of hydraulic response for driving power distribution, the...  
...clutch piston and an air bleeder to reduce the amount of air remaining in the clutch chamber. In addition, precharge pressure is applied to obtain a high level of hydraulic rigidity. Since the prechamber...

**2/3,KWIC/14 (Item 1 from file: 94)**  
DIALOG(R)File 94:JICST-EPlus  
(c)2006 Japan Science and Tech Corp(JST). All rts. reserv.

05778556 JICST ACCESSION NUMBER: 04A0383133 FILE SEGMENT: JICST-E  
**Next-Generation Automatic Transmission System Featuring Low**

**Fuel-Consumption**  
KUROIWA HIROSHI (1); OKADA TAKASHI (1); OZAKI NAOYUKI (1); YAMASAKI MASARU  
(1)

(1) Hitachi, Ltd.  
Hitachi Hyoron, 2004, VOL.86,NO.5, PAGE.366-369, FIG.6, REF.5  
JOURNAL NUMBER: F0062AAN ISSN NO: 0367-5874 CODEN: HITAA  
UNIVERSAL DECIMAL CLASSIFICATION: 629.33.03  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Commentary  
MEDIA TYPE: Printed Publication

...ABSTRACT: which is automated on the basis of MT (manual transmission).  
The HITACHI group is developing original torque -assisted AMT. It can  
be made compact only by the addition of a friction clutch mechanism to existing MT, and is expected to be a next-generation automatic transmission system...

**2/3,KWIC/15 (Item 2 from file: 94)**  
DIALOG(R)File 94:JICST-EPlus  
(c)2006 Japan Science and Tech Corp(JST). All rts. reserv.

05759744 JICST ACCESSION NUMBER: 04A0392279 FILE SEGMENT: PreJICST-E  
**Experimental Evaluation of a Non-Contact Load-Responsive Transmission**  
MAEKAWA HITOSHI (1); GOTO YASUHIRO (2); SATO KOJI (3)  
(1) National Inst. Advanced Industrial Sci. and Technol., JPN; (2) Fact  
; (3) Keivdezain  
Nippon Robotto Gakkai Gakujutsu Koenkai Yokoshu(CD-ROM), 2003, VOL.21st,  
PAGE.3D25  
JOURNAL NUMBER: L4867AAM  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Conference Proceeding  
MEDIA TYPE: magnetic

...ABSTRACT: non-contact load-responsive transmission capable of switching  
the reduction ratio in response to load torque was experimentally evaluated. A stable switching of the reduction ratio due to the hysteresis of the magnetic clutch was confirmed. Also a high efficiency above 85 % was achieved since the magnetic mechanism of...

...transmission, a moderate transition with less shock was feasible due to magnetic elasticity of the clutch. Additionally, the advantage of the transmission that protects against the overload was confirmed experimentally. (author abst.)

**2/3,KWIC/16 (Item 3 from file: 94)**  
DIALOG(R)File 94:JICST-EPlus  
(c)2006 Japan Science and Tech Corp(JST). All rts. reserv.

05743684 JICST ACCESSION NUMBER: 04A0279639 FILE SEGMENT: JICST-E  
**Development of 4WD System for Minivan**  
ARAI KENTARO (1); YAMAOKA TAKAKI (1)  
(1) Honda R & D Co., Ltd.  
Honda R&D Tech Rev, 2004, VOL.16,NO.1, PAGE.127-132, FIG.19, REF.4  
JOURNAL NUMBER: L0353AAK ISSN NO: 0915-3918  
UNIVERSAL DECIMAL CLASSIFICATION: 629.331+629.334  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Original paper  
MEDIA TYPE: Printed Publication

ABSTRACT: A torque on demand 4WD system has been developed with a front engine front drive vehicle as...

...balance traction performance and handling characteristics with fuel efficiency in a minivan. The response of torque to front-rear wheel rotation speed difference were studied to ensure superior traction performance and handling characteristics. The use of an initial torque between the front and rear wheels was considered as a method of improving the response of torque transmitted to the rear wheels when the front wheels slip. Using the Honda dual pump...

...snow and actual measurement values for tire traction characteristics were employed to find the optimal torque characteristic. As a result, 25% of maximum necessary torque was established as the ideal initial torque. A comparison of the optimal torque characteristic with the torque characteristic of the dual pump system in a simulation of vehicle starting on snow confirmed the effectiveness of the initial torque. It was possible to achieve the optimal torque characteristic with a simple mechanical structure. A one-way cam and a preset pilot clutch were added to the rear final drive unit of the dual pump system. Good fuel efficiency was...

**2/3,KWIC/17 (Item 4 from file: 94)**  
DIALOG(R)File 94:JICST-EPlus  
(c)2006 Japan Science and Tech Corp(JST). All rts. reserv.

03022878 JICST ACCESSION NUMBER: 97A0019753 FILE SEGMENT: JICST-E  
**The New Terrano. Development of a Hydraulic Control System for "All-Mode**

**4\*4".**

MURAKAMI KEN'ICHIRO (1); WAKAHARA TATSUO (1); FUKUNAGA ISAO (1)  
(1) Nissan Mot. Co., Ltd.  
Nissan Giho(Nissan Technical Review), 1996, NO.38, PAGE.94-100, FIG.8  
JOURNAL NUMBER: S0443AAP ISSN NO: 0385-9266  
UNIVERSAL DECIMAL CLASSIFICATION: 629.33.04/.06  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Introduction article  
MEDIA TYPE: Printed Publication

ABSTRACT: The hydraulic control system for a new electronic torque split  
four-wheel drive system called "All-Mode 4\*4" consists of 2 oil pump...

...the other by a DC motor, and a control valve body assembly which can control clutch pressure continuously. To attain a high level of hydraulic response for driving power distribution, the system employs a non-rotating clutch piston and an air bleeder to reduce the amount of air remaining in the clutch chamber. In addition, precharge pressure is applied to obtain a high level of hydraulic rigidity. Since the precharge...

...of hydraulic pressure has been improved by separating the 2WD-4WD switching mechanism and the clutch pressure control mechanism. As a result, a high level of hydraulic response of 2WD.RAR...

2/3,KWIC/18 (Item 5 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
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02801824 JICST ACCESSION NUMBER: 96A0668395 FILE SEGMENT: JICST-E  
**The Hydraulic Control System for a New Electronic 4WD System.**  
MURAKAMI KEN'ICHIRO (1); WAKAHARA TATSUO (1); FUKUNAGA ISAO (1); SAKAI HIROMASA (1)  
(1) Nissan Mot. Co., Ltd.  
Jidosha Gijutsukai Gakujutsu Koenkai Maezurishu, 1996, NO.962, PAGE.125-128  
, FIG.7  
JOURNAL NUMBER: S0434AAR ISSN NO: 0919-1364  
UNIVERSAL DECIMAL CLASSIFICATION: 629.33.03  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Conference Proceeding  
ARTICLE TYPE: Short Communication  
MEDIA TYPE: Printed Publication

ABSTRACT: This paper describes the hydraulic control system adopted for a new electronic torque split 4WD system. To attain a high level of

hydraulic response, the system employs a non-rotating clutch piston and an air bleeder to reduce the amount of air remaining in the clutch chamber. In addition , pre-charge pressure is applied to obtain higher hydraulic rigidity. Since the precharge pressure is...  
...pre-charge pressure has been improved by separating the 2WD-4WD switching mechanism from the clutch pressure control mechanism.  
(author abst.)

**2/3,KWIC/19 (Item 6 from file: 94)**  
DIALOG(R)File 94:JICST-EPlus  
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02290195 JICST ACCESSION NUMBER: 94A0953138 FILE SEGMENT: JICST-E  
**Appearance of a new era AT.2.TOYOTA ECT-iE.**

YAMAOKA TAKEO (1)  
Jidosha Kogaku, 1994, VOL.43,NO.15, PAGE.138-145, FIG.16  
JOURNAL NUMBER: G0880AAY ISSN NO: 0388-3841  
UNIVERSAL DECIMAL CLASSIFICATION: 629.33.03 621.83  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Introduction article  
MEDIA TYPE: Printed Publication

...ABSTRACT: fuel consumption a flex lockup system which further expands the actuation range of a lockup clutch . Further, the clutch hydraulic pressure control which works at the time of gear shifting was added in order to obtain smooth gear shifting characteristics on top of the conventional engine torque control. With the compensatory function added to the clutch hydraulic control, stable gear shifting characteristics can be attained.

**2/3,KWIC/20 (Item 1 from file: 95)**  
DIALOG(R)File 95:TEME-Technology & Management  
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01897815 20040406450

**Challenges of engine starts and drivability in a parallel hybrid-electric system**

(Herausforderungen von Motorstart und Steuerbarkeit in einem parallelen hybrid-elektrischen System)  
Colvin, D; Masterson, B  
Advanced Hybrid Vehicle Powertrains 2004, SAE 2004 World Congress, Detroit,  
US, Mar 8-11, 20042004  
Document type: Conference paper Language: English  
Record type: Abstract  
ISBN: 0-7680-1369-0

ABSTRACT:  
...situation can occur both from rest and while already moving.  
Launching a vehicle, without a torque converter, is a difficult challenge for a

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4-speed automatic transmission. Given a particular induction motor torque capacity, the amount of 'electric only' drive capability the vehicle will have, is to a large part determined by the magnitude of torque required to start the engine turning. Once the MHT system is in its 'electric only' drive mode, to start the engine turning, without disturbing the torque already driving the wheels, only the induction motor torque capacity beyond what is required to start the engine turning can be made available.  
Since...

...engine frequently and under various conditions. In the MHT system discussed in the paper, the torque converter has been replaced with a 40-kilowatt electric induction machine, which is coupled to...

...300 volt - 3.6 Ah Lithium-Ion battery in a 1450 kg vehicle. Also, an added wet clutch system allows the engine to be disconnected from the electric machine enabling 'electric only' driving.

**2/3,KWIC/21 (Item 2 from file: 95)**  
DIALOG(R)File 95:TEME-Technology & Management  
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01855471 20040400185

**Transient and unstable torsional vibrations on a 4-stroke marine diesel engine**

(Uebergangs- und instabile Torsionsschwingungen bei einem 4-Takt-Schiffsdieselmotor)

Lee, DC; Yu, JD

Nat. Maritime Univ., Chonnam, ROK; Hyundai Heavy Ind., Ulsan, ROK  
Design, Application, Performance and Emissions of Modern Internal Combustion Engine Systems and Components, 2003 Spring Tech. Conf. of the ASME Internal Combustion Engine Div., Proc., Salzburg, AT, May 11-14, 2003

Document type: Conference paper Language: English  
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**ABSTRACT:**

...torsional vibration occurs on marine propulsion shafting systems due to slippage of a multi-friction clutch installed between increasing gear box and shaft generator. To identify this unstable vibration and make...

...2nd order of shaft generator idle running speed by means of thrust reversal and friction torque from clutch. Some additional measurement with rubber coupling disengaged showed that unstable torsional vibration did not occur, which means...

**2/3,KWIC/22 (Item 3 from file: 95)**  
DIALOG(R)File 95:TEME-Technology & Management

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Art Unit 3661

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**Investigation of compliant centrifugal clutch designs**

(Untersuchung eines nachgiebigen Fliehkraftkupplungsentwurfes)

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DETC 2001, Proc. of the 2001 ASME Design Engineering Technical Conf. and  
Computers and Information in Engineering Conf., 27th Design Automation  
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**ABSTRACT:**

...configurations of compliant centrifugal clutches, proposes pseudo-rigid-body models for their analysis, and presents torque capacity results for several prototypes. The results are also compared to those obtained from compliant centrifugal clutch designs already commercially available. While all four new clutch designs compare favorably to commercially available clutch configurations, the floating opposing arm (FOA) clutch demonstrated the highest torque capacity of all the configurations. Compliant mechanism techniques have been applied to develop additional centrifugal clutch mechanism types. A testing method for determining the torque capacity of a centrifugal clutch has been presented. The configuration and PRBM of four novel configurations has been presented, and torque capacities for each clutch type summarized. Experimental data suggests that the new clutches offer significant increases in torque capacities, or torque producing ability, over the currently manufactured compliant centrifugal clutches. It was found that the FOA clutch had the highest torque capacity, more than double the torque capacity of the currently manufactured clutches. The other novel clutches introduced also show a significant increase in torque capacity. This increase in torque capacity allows for smaller, lighter, and/or less expensive clutches to be utilized to obtain the required torque for a given application. The ability of the novel compliant centrifugal clutches to satisfy torque requirements with lighter and less expensive clutches make these clutches ideal for cost and/or...

**2/3,KWIC/23 (Item 4 from file: 95)**

DIALOG(R) File 95:TEME-Technology & Management

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**Optimizing the smoothness and temperatures of a wet clutch engagement through control of the normal force and drive torque**

(Optimierung von Ruckfreiheit und Temperatur beim Eingriff von

S.N.10/774,866

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Nasskupplungen durch Steuerung der Normalkraft und des  
Antriebsdrehmoments)

Holgerson, M

Lulea Univ. of Technol., S

Transactions of the ASME, Journal of Tribology, v122, n1, pp119-123,  
2000

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**Optimizing the smoothness and temperatures of a wet clutch engagement  
through control of the normal force and drive torque**

**ABSTRACT:**

Automatic transmission gear shifts are handled by wet clutches, which determine the smoothness. The clutch face temperatures during the engagements are often an important parameter for the total clutch life.

A wet clutch test rig has been used to evaluate how a wet clutch engagement can be improved in terms of smoothness and temperature. This was performed with control...

...knowledge about friction characteristics and dynamic performance. The parameters used for control were the drive torque and the normal force on

the clutch. By drive torque shut-off and reduced normal force the torque variations were greatly reduced and the temperature rise was decreased by 37 %.

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